Application No.: 09/489,517   Docket No.: 99-445

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1.   (Previously Presented) A method for visualizing a network that includes a plurality of nodes, comprising:

collecting information from at least one of the nodes, the information describing network operation over a period of time, and wherein collecting information includes obtaining forwarding tables from the nodes;

reconstructing the network operation for the time period from the collected information wherein reconstructing includes creating forwarding tables from the collected information;

comparing the forwarding tables obtained from the nodes to the created forwarding tables;

measuring routing protocol convergence time based on the comparison; and

replaying, for an operator, the network operation as the network operation occurred during the time period using the reconstructed network operation.

2.   (Original) The method of claim 1, wherein the collecting includes:

obtaining at least one of node status change information, information regarding messages received and transmitted in the network, and link status change information.

3. – 5. (Canceled)

6.   (Original) The method of claim 1, wherein the reconstructing includes:

combining information from at least two of the nodes;

sorting the combined information by time; and

reconstructing the network operating using the sorted information.

7.   (Previously Presented) The method of claim 1, wherein the replaying includes:

displaying the network operation to the operator as an interactive network topology diagram.

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8.   (Original) The method of claim 7, wherein the displaying includes:

providing detailed information regarding the network operation in response to an instruction from the operator.

9.   (Original) The method of claim 8, wherein the providing includes:

displaying detailed information regarding one of a node, a link and a message in the network.

10.   (Previously Presented) The method of claim 1, wherein the replaying includes:

displaying the network operation to the operator; and

permitting the operator to manipulate the displaying of the network operation.

11.   (Previously Presented) The method of claim 1, wherein the replaying includes:

permitting the operator to manipulate the replaying of the network operation.

12.   (Previously Presented) The method of claim 11, wherein the permitting includes:

allowing the operator to at least one of fast forward, reset and rewind the replaying of the network operation.

13.   (Previously Presented) A system for visualizing a network that includes a plurality of nodes, comprising:

means for collecting information from at least one of the nodes, the information describing network operation over a period of time wherein collecting includes obtaining forwarding tables from the nodes;

means for reconstructing the network for the time period from the collected information wherein reconstructing includes creating forwarding tables from the collected information;

means for comparing the forwarding tables obtained from the nodes to the created forwarding tables;

means for measuring routing protocol convergence time based on the comparison; and

means for replaying the reconstructed network operation over the time period for an operator.

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14.   (Currently Amended) A system for visualizing a network that includes a plurality of nodes, comprising:

a memory that stores instructions; and

a processor configured to execute the instructions in the memory to collect information fro at least one of the nodes, the information describing network operation over a period of time, obtain forwarding tables from the nodes, created forwarding tables from the collected information, reconstruct the network operation for the time period from the collected information, and cause the network operation to be displayed, for an operator, as the network operation occurred during the time period using the reconstructed network operation; and wherein the processor is further configured to compare the forwarding tables obtained from the nodes to the created forwarding tables, and measure routing protocol convergence time based on the comparison.

15.   (Original) The system of claim 14, wherein when collecting, the processor is configured to obtain at least one of node status change information, information regarding messages received and transmitted in the network, and link status change information.

16. – 17. (Canceled)

18.   (Canceled)

19.   (Original) The system of claim 14, wherein when reconstructing, the processor is configured to combine information from at least two of the nodes, sort the combined information by time, and reconstruct the network operation using the sorted information.

20.   (Previously Presented) The system of claim 14, wherein when causing the network operation to be displayed, the processor is configured to present the reconstructed network operation to the operator as an interactive network topology diagram.

21.   (Previously Presented) The system of claim 20, wherein when presenting, the processor is configured to provide detailed information regarding the network operation in response to an instruction from the operator.

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    22.   (Original) The system of claim 21, wherein when providing, the processor is configured to display detailed information regarding one of a node, a link, and a message in the network.

    23.   (Previously Presented) The system of claim 14, wherein when causing the network operation to be displayed, the processor is configured to permit the operator to manipulate the displaying of the network operation.

    24.   (Previously Presented) The system of claim 14, wherein when causing the network operation to be displayed, the processor is configured to replay the network operation over the time period, and permit the operator to manipulate the replaying of the network operation.

    25.   (Previously Presented) The system of claim 24, wherein when permitting, the processor is configured to allow the operator to at least one of fast forward, reset and rewind the replaying of the network operation.

    26.   (Previously Presented) A computer-readable medium tat stores instructions for causing at least one processor to perform a method for visualizing a network that includes a plurality of nodes, comprising:

    instructions for collecting information from at least one of the nodes, the information describing network operation over a period of time;

    instructions for comparing forwarding tables obtained from the nodes with forwarding tables created from the information collected from the nodes;

    instructions for reconstructing the network operation for the time period from the collected information; and

    instructions for presenting, to an operator, the network operation as the network operation evolved over time during the time period using the reconstructed network operation.

    27. – 31. (Canceled)

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32.   (Previously Presented) An interactive graphical user interface for visualizing a
network having a plurality of nodes, comprising:
        a network topology diagram configured to display at least some of the nodes, links
connecting the nodes, and messages transmitted through the network; and
        replay controls that permit an operator to control a replay sequence of the network as the
network operates over a period of time wherein said replay controls include a reset control.

33.   (Original) The graphical user interface of claim 32, wherein the replay controls
include controls for performing at least one of a fast forward, a rewind, a step forward, and a
step backward of the replay sequence.

34.   (Previously Presented) A method for visualizing a network having a plurality of
nodes, comprising:
        recording network events by one or more of the nodes over a period of time;
        collecting the recorded events from the nodes;
        recreating operation of the network over the time period from the recorded events;
        creating forwarding tables from the recorded events; and
        displaying the recreated network operation.

35.   (Original) The method of claim 34, wherein the recording includes:
        generating a time stamp for each of the recorded events.

36.   (Currently Amended) The method of claim 35, wherein the recreating includes:
        combining the recorded events [fro] for the nodes; and
        sorting the recorded events based on the generated time stamps.

37.   (Previously Presented) A method for visualizing a network having a plurality of
nodes, comprising:
        collecting information from at least one of the nodes, the information describing network
operation over a period of time, and wherein collecting information includes obtaining
forwarding tables from the nodes;
        reconstructing the network operation for the time period from the collected information
wherein reconstructing includes creating forwarding tables from the collected information; and

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replaying, for an operator, the network operation as the network operation occurred during the time period using the reconstructed network operation.